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MAIN POINTS TO CONSIDER  
WHEN ELECTRIFYING THE RURAL HOME

(Equipment is listed in the approximate order of purchase usually considered desirable; actual order varies according to family needs and amount of money family has to spend)

**WIRING:** Good wiring is the foundation of good electric service in the home. Plan to have:

**Enough circuits of right size wire:** Kitchen, dining room and laundry should have enough appliance outlets on appliance circuits, which have larger than #14 wire, to provide for full use of high-wattage equipment now and in the future. The wire sizes on appliance circuits shall be #12 or #10, occasionally for heavy-duty equipment #8, and for the range three #6 wires. General purpose circuits serve fixed lights, portable lamps, radios, cleaners, small fans and similar low-wattage equipment; they use #14 or #12 wire and 15 ampere fuses or circuit breakers.

**Enough outlets, lights and switches:** Since appliance and lamp cords are usually 6' long, provide a convenience outlet for about every 12' of space around the wall or for any shorter usable wall space; never have less than two in a room. Place workroom convenience outlets and all switches about 40" above the floor; outlets in other rooms may be 18" above the floor or in the baseboard. An outlet in a switch plate provides an extra place at a convenient height for plugging in a vacuum cleaner. Have 3-way and 4-way switches at most-used entrances, so that lights can be controlled without retracing steps. \*T-rated switches are desirable; mercury switches are quiet. On light walls ivory switches, outlets and plates are preferable.

**Adequate entrance for electric service:** The service entrance for maximum use should be not less than three #6 wires. This 3-wire service provides 120/240 volts.

**LIGHTING:** No bare bulbs should be used in the home except in closets and unused parts of attics and basements and possibly, in the case of fluorescent tubes, in places where used briefly or placed out of line of vision, such as at bath and bedroom mirrors or under kitchen cabinets. For good lighting, we need:

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| 1. <b>Enough light:</b> .....               | Light can be measured in footcandles       |
| Large enough lamp bulbs .....               | Use size suggested for equipment bought    |
| In enough places and well-located .....     | There should be no sharp shadow on work    |
| With good surrounding equipment .....       | Light colors, dull finishes are best       |
| 2. <b>Light of good quality:</b> .....      | Brightness is measured in footlamberts     |
| Softly diffused and well-shaded .....       | Use white bowls, white shade linings       |
| Pleasing in color and brightness .....      | Avoid glare, shadow and spotty diffusion   |
| 3. <b>Well-balanced distribution:</b> ..... | Ceiling fixtures provide this economically |
| General lighting should be at least .....   | There should not be a notable contrast     |
| 1/10 of local lighting on close work        | between light on work and light in room    |

Ceiling fixture diameter should be at least as wide in inches as width of room in feet, preferably corresponding more nearly with diagonal of room. Wattage of incandescent bulbs in single-bulb fixtures corresponds with fixture diameter as follows: 3½" - 40w.; 4", 5", 6", 7", - 60 or 40w.; 8", 9" - 75w.; 10" - 100w.; 12" - 150w.; 14" - 200w.; multiple-bulb fixtures require higher wattages to give the same amount of light. In lamps, bulb size corresponds with diffusing bowl diameter, and, because shaded, bulb wattage can be higher than in fixtures of same diameter, IES-type bowl: 6" - 75w.; 8" - 100w.; 9-3/8" - 150w.; 10" uses 100-200-300w. CLM-type: 8" B and 7½" C bowl uses 50-100-150w.; and the 10" A type, 100-200-300w.

Buy simple, inconspicuous fixtures and put more money in portable lamps, if money is limited. Fluorescent tubes give two to three times as much light as incandescent or filament bulbs for the same wattage. They are also cooler, give a whiter light lower in brightness, and last longer. Some fixtures and lamps carry certification tags indicating quality. Among these are the AHLI (American Home Lighting Institute) tag for fixtures, and the CLM (Certified Lamp Makers) tag for portable lamps. Use size bulb specified in equipment. Keep equipment clean.

**RADIO:** 6-tube, table model without push-button tuning is usually best buy in low-cost radio. Larger size, table or console models reproduce sound better. Radio phonograph is used more if equipped with record changer.

**IRONING EQUIPMENT:** Recommended--automatic, 2½ - 4 lbs., 1000w., permanently attached cord, large sole plate. Steam iron is for pressing woollens, silks; less useful in ironing cotton-linen wash. An ironer may come later in the buying plan. It saves time and permits sitting throughout ironing. Portable models, or floor models without cabinet covers are in lower price bracket and do satisfactory job. Thermostatic control is essential.

**ELECTRIC WATER SYSTEM:** Place high in buying plan. Running water ranks first in time and energy saving. Provide water for kitchen, laundry, bath, garden, poultry, and livestock. Install system large enough to meet the needs. For example, 3/4" garden hose will handle about 300 gal. per hr. Small pipe limits usefulness of an otherwise adequate system. A good water system requires a good well. The well should be curbed to prevent contamination. Health authorities will usually test water to find what organisms it contains.



**WASHER:** Cost range is - wringer, \$50-\$150; spinner, \$150-\$200; automatic, \$200-\$350. Wringer type—usually 8 or 9 lb. size with pull-stop or easy-acting safety release on wringer; consider value of pump, at additional cost of \$10, for draining water when lacking floor drain. Spinner type—some have safety lid-locking feature making accident with spinning basket impossible. Automatic type—agitator type has stronger washing action than cylinder; requires adequate supply hot and cold running water under pressure and adequate drain facilities; some have means of holding water for use again, also of adding clothes during cycle. Evaluate time and energy saving values, safety features, relative cost of all types of washers.

**REFRIGERATION EQUIPMENT:** A household refrigerator should be large enough, minimum of 6 cu. ft. and preferably 7 cu. ft. for two persons, larger for more ( $\frac{1}{2}$  to 1 cu. ft. for each extra). Its door should open on the side near the work-space. Weigh special features against extra cost; plan for storing frozen food, quantities of milk, eggs. Know how you will solve quantity freezing and storage of food: by locker plant, home freezer, walk-in? Home freezer: at least 5 and preferably 6 cu. ft. per person for freezing and storing; freezing compartment separate from and not over 1/10 of freezing and storage space; reliable maker, reputable dealer extremely important.

**SMALL APPLIANCES:** Chromium-plated finishes and thermostatic controls are desirable on small cooking appliances; higher wattage (around 1000w.) speeds cooking. Consider a coffeemaker or toaster first; perhaps a combination wafflebaker and sandwich toaster later. Mixer is very useful; don't buy inexpensive beater or whipper; secure sturdy equipment in \$30 bracket, or up.

**VACUUM CLEANER:** Upright cleaners using brushes, agitation and suction usually remove more deeply-imbedded dirt than do straight suction cleaners, which come in either tank or upright models. Upright cleaners of either type have nozzle height adjustment devices which listed in order of convenience in use are: automatic adjuster, foot operated and hand operated adjuster. Factory-rebuilt equipment offers saving in purchase price.

**HOT PLATE:** Recommended—1000w. or higher, 3-speed switch, durable finish. Some have range units.

**ROASTER:** Rectangular shape; thermostatic control; glass or ovenware dishes can go directly to table. Note: Cost of good hotplate and roaster is 1/3 to 1/2 the cost of an apartment range.

**RANGE:** Full-size preferable, but apartment-size can do job. Evaluate special features against their cost (a \$15 to \$20 timer clock, if not used as a timer for cooking, makes a rather expensive timepiece.) Look at stripped models: they have same units, same ovens as more expensive models. Weigh conveniences of extra features against having another piece of equipment like a mixer. Consider water-heating problem; use range boiler or electric heater. Consider kitchen heating problem; use separate heater matching range and burning wood, coal, or cobs, with coils through firebox for heating water, using old range boiler.

**ELECTRIC WATER HEATER:** Homes with running water - consult power supplier for possible special low electric rates on certain types of electric storage heaters. Use heater with large tank - 60 or 80 gallon size is needed on many farms. Homes without running water might use 2-10 gallon pin-up displacement type. Electric teakettle is useful in many cases; type with automatic cut-off is preferable.

**CLOTHES DRYER:** Rotary tumbler type or cabinet models are available. Higher wattage dryer gives more rapid drying; look for time and temperature controls.

**DISHWASHER:** Usually needs hot running water and drain facilities; however, some heat water to be used. Completely automatic controls save time, bother.

**INCOME-PRODUCING FARM EQUIPMENT:** Consider garden watering, chick brooder, poultry house lighting, water-warmers, pig brooder; portable motor, feed grinder, milking machine and other productive uses early in electrification plan. They can help to pay wiring, lighting and equipment costs and monthly bill.